

# 11. Stories and Scenarios

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## Plan for ISSD Lecture #11

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Top down vs bottom up design techniques

The case for stories and scenarios

The case against stories and scenarios

## "Top-down" Design

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Work down from high level business goals ("we need to improve our supply chain efficiency") and progressively refine them to more concrete or physical instantiations

Use patterns like "supply chain" to guide data collection and interpretation

The choice of pattern is a very early decision in the design process that can radically change its trajectory and outcome

Seems most appropriate in ("information-intensive") domains governed by abstract models and constraints

## "Bottom-up" Design

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Observations at the concrete or physical level are used to create a story that ties them together (physical model)

Generalize or abstract the set of observations into equivalence classes that you want to treat the same

Turn specific actors into roles, turn specific activities or processes into goals

Seems most appropriate in ("experience-intensive") domains governed by concrete objects and constraints

## "Side-to-Side" Or Hybrid Approaches

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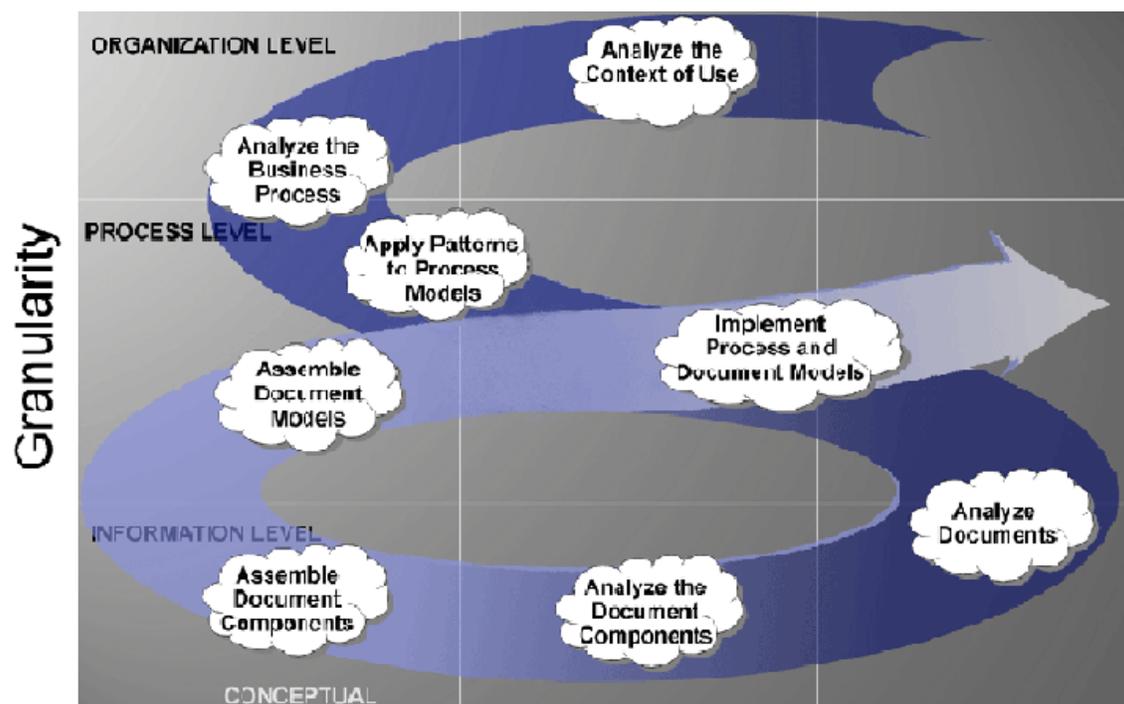
The "normative" presentation of a design technique will usually emphasize either a top-down or a bottom-up approach

For example, business process modeling is usually presented in a top-down manner, and as we'll see today, stories and scenarios are presented as bottom-up

But most so-called bottom-up approaches have some top-down aspects, and vice versa

## "Document Engineering" Hybrid

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# Defining “Story” and “Scenario”

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Stories contain plots and drama, the same narrative elements that go into an engaging novel, movie, etc.

Stories take the view of a specific stakeholder or persona

Stories create empathy for characters

## Examples of "User Stories"

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You receive something you feel that you ought to read but, because it's not vitally important, you don't want to do it immediately.

Instead, you toss it on a pile of documents which probably sits on a work surface in a corner of your office. You feel good. Things are under control, and with a minimal investment of time!

Time passes. The pile gets higher and higher. It begins to look like there's literally a mountain of stuff you ought to read. You begin to feel uncomfortable.

Provoked by the pile's height, you sort through it, discarding articles that no longer seem interesting, perhaps selecting one or two to read. The winnowed pile -- now of a much more manageable size -- is put back in its place. You feel good. Things are under control again.

"The Guilt Pile," from Thomas Erickson, "Notes on Design Practice: Stories and Prototypes as Catalysts for Communication"

# Another Tom Erickson Design Story

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(An office building has an intelligent energy management system that conserves energy on weekends by turning off unneeded lights after an hour has elapsed. An employee, accompanied by his six year old daughter, has stopped by to finish up some work,. Suddenly, the lights go out.)

Daughter: Who turned off the lights?

Father: (matter-of-factly) The computer turned off the lights.

Daughter: (pause) Did you turn off the lights?

Father: No, I told you, the computer turned off the lights.

(Someone manually turns the lights back on)

Daughter: Make the computer turn off the lights again.

Father: (with irony) It will in a few minutes.

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## A Growing Collection of User Stories

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<http://www.apple.com/getamac/ads/>

# The Case for Stories and Scenarios

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Stories "give personas something to do"

Stories convey and validate "feature bundles"

Stories encourage and record cognitive ethnography"

Stories are "prompts for innovation"

Stories can facilitate relevance, consistency, continuity in "product externals"

## Stories "Give Personas Something To Do"

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Stories enable "motivation walkthroughs" that validate the importance/priority of features for personas

Stories identify and reinforce the "design relevant" details of personas

Stories glue together different levels of goals for stakeholders

## Stories Convey and Validate "Feature Bundles"

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Stories identify configurations or bundles of features/requirements that are relevant to stakeholder goals in a more compelling way than lists do

What is the story behind each of these shopping lists?

- Cake mix, icing, ice cream, small candles, balloons, noise makers
- Champagne, tall candlesticks
- Clogged drain cleaner ("Drano"), plunger, mop, bucket, duct tape

## Stories Encourage and Record "Cognitive Ethnography"

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Stories should include the specific tangible and intangible artifacts that the actors in the story create, consume, consult, or otherwise interact with

These often embody or contain knowledge needed to carry out the tasks that achieve the actor's goals

Stories can focus attention on the characteristics or artifacts in the environment that hinder the actor's behavior and performance

This can facilitate the design of new artifacts or features that aid or improve behavior and performance

# Stories are “Prompts for Innovation”

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A fictional story can pose challenges that need to be overcome

-People can more readily “fill in the gap” than they can come up with ideas when there are fewer constraints

Technology pull mode: We want to do something, what kind of technology would we need to enable it?

vs. Technology push mode: We have this new technology, what can we do with it?

## One Minute MBA Moment: Invention and Innovation

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Invention is the process of devising and producing by independent investigation, experimentation, and mental activity something which is useful and which was not previously known or existing

Innovation is the process of introducing novel ideas into use or practice and includes entrepreneurship as an integral part.

Does innovation always require invention?

Does society benefit from invention, or only from innovation?

How much time does it typically take to get from invention to innovation?

# Stories Facilitate Relevance, Consistency, Continuity in “Product Externals”

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Successful ad campaigns, marketing brochures, product presentations, demoware, etc often rely on stories

Stories can present problems and solutions to potential customers and other stakeholders in compelling ways

The same stories - or at least the same personas - can span the entire life cycle from requirements through design through deployment

## What Makes a Good Story?

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Good stories are very specific.. and “even if not true in every detail, the essential elements that impact the design should be accurate”

(Could we use our “context 8-space” or other systematic notion of how to characterize the context as a checklist or metamodel to ensure that our story clearly defines a context)

“But because stories are, by definition, about specific users and settings, there is a fear that a story could lead a team to focus on a single setting and activity at the expense of others”

# Stories as Design Patterns

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Writers, rhetoricians, and cognitive scientists all recognize that there are patterns to stories

This important and intuitive idea ("Once upon a time... happily ever after") enables stories to follow templates or metamodels that are instantiated in specific stories

This should make a collection of stories more consistent and easier to use as design aids

But this is a top-down design philosophy that seems underexploited in the UXD methodology

[Webquest Design Patterns](#)

## "Story Grammar" Example

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**Setting:** introduction of main characters, as well as the time and place for the story action. (Once upon a time there were three bears, the momma bear, the papa bear and the baby bear. They all lived in a tiny house in a great big forest.)

**Initiating Event:** An action or happening that sets up a problem or dilemma for the story. (One day a little girl named Goldilocks came by.)

**Internal Response:** The protagonist's reactions to the initiating event. (She was surprised to see the house and noticed it was empty.)

**Attempt:** An action or plan of the protagonist to solve the problem (She went inside to find the three bears and ate the baby bear's soup, broke the baby bear's chair, and fell asleep in the baby bear's bed.)

**Consequence:** The result of the protagonist's actions. The bears return to find things eaten and broken and to find Goldilocks in the baby's bed.

**Reaction:** A response by the protagonist to the consequence. (Goldilocks ran away.)

# Story Collections

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If stories need to be specific rather than "the average" story, you need to design a set of stories to ensure that you cover the key settings, domains, and tasks in which the technology will be used

This is the same advice we had with personas, and that makes sense if stories are "what personas do"

How should we develop this story collection? Is there a core story with context variations (alternative plot twists?), or are the different stories developed independently?

(At some point you have to decide whether you are building a single solution that can be configured or customized for different customers, or a set of solutions that might be built from common components but which are more narrowly targeted for particular customers)

# Metastories

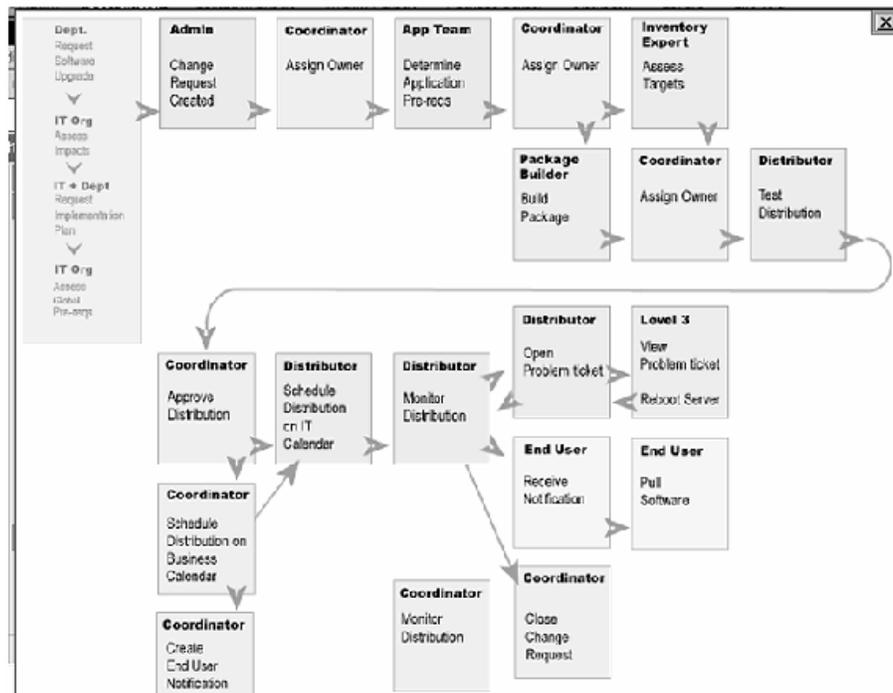
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Some story proponents suggest that you create "metastories" that abstract, anonymize, and combine the stories that describe specific customer situations

Metastories must maintain a consistent point of view, following one stakeholder end to end.

When does a metastory become a business process model like a sequence diagrams?

# Metastory "Process Flow" from UXD Paper



## The Case Against Stories and Scenarios

Are stories the most effective method for capturing and reusing effort in a design artifact?

Are stories just the "least common denominator" of design artifacts?

Do stories "beg the question" and make important design decisions in an ad hoc or implicit way?

# Stories as Effective Design Artifacts

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Are stories being compared against a "straw man" list of requirements that no one uses? Wouldn't there be use cases with "success stories" at least?

Best practice in design follows the goal that "no work product should ever be created from scratch"

But the bottom-up concreteness and specificity of stories seems to contradict this principle

One of the UXD case studies reports that software engineers were forced to "reverse engineer" a story to figure out technical requirements

## Reverse Engineering a Storyboard

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For the final incarnation of the story in the execution phase, namely the product design specification, the physical artifacts depend on how the individual product development team works.

In our case, the development team adopted the storyboard and reverse-engineered it to determine what the technical requirements would be and who would work on it. Initially, they worked directly from the hand-sketched storyboard illustrations and added their own notes to the panels.

## Stories as "Least Common Denominator"

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Stories are “readily accessible to all members of an interdisciplinary team”

Which means they don't take advantage of, or tap into, any specialized concepts or skills of different disciplines

Which means they focus attention on easy to describe or visible aspects of a design or solution, and implicitly deprecate or ignore those that are subtle/hard to explain in a story

## Do Stories "Beg the Question" in Design?

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Stories are very specific.. and “even if not true in every detail, the essential elements that impact the design should be accurate”

How do we know which elements of a story "impact the design" if we aren't already assuming a lot about the design?

## Readings for 8 October

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Rohit Verma, Gerhard Plaschka and Jordan J. Louviere, "Understanding customer choices: A key to successful management of hospitality services," *Cornell Hospitality Quarterly*, 2002.

Jane Fountain, "Paradoxes of public sector customer service," *Governance*, 2001.

Brigitte DiFerdinando, Eric Lesser, & Tomer Amit, "Taking information into your own hands," *IBM Business Consulting Services*, 2004.